

**SUPER FAST  
GLASS PASSIVATED RECTIFIERS**

REVERSE VOLTAGE - 100 to 200 Volts  
FORWARD CURRENT - 10 Amperes

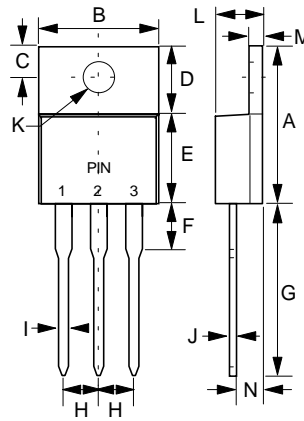
**FEATURES**

- Glass passivated chip
- Superfast switching time for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current
- High surge capacity
- Plastic package has UL flammability classification 94V-0

**MECHANICAL DATA**

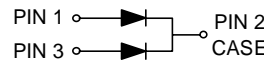
- Case : TO-220AB molded plastic
- Polarity : As marked on the body
- Weight : 0.08 ounces, 2.24 grams
- Mounting position : Any

**TO-220AB**



| TO-220AB |                    |                    |
|----------|--------------------|--------------------|
| DIM.     | MIN.               | MAX.               |
| A        | 14.22              | 15.88              |
| B        | 9.65               | 10.67              |
| C        | 2.54               | 3.43               |
| D        | 5.84               | 6.86               |
| E        | 8.26               | 9.28               |
| F        | -                  | 6.35               |
| G        | 12.70              | 14.73              |
| H        | 2.29               | 2.79               |
| I        | 0.51               | 1.14               |
| J        | 0.30               | 0.64               |
| K        | 3.53 $\varnothing$ | 4.09 $\varnothing$ |
| L        | 3.56               | 4.83               |
| M        | 1.14               | 1.40               |
| N        | 2.03               | 2.92               |

All Dimensions in millimeter



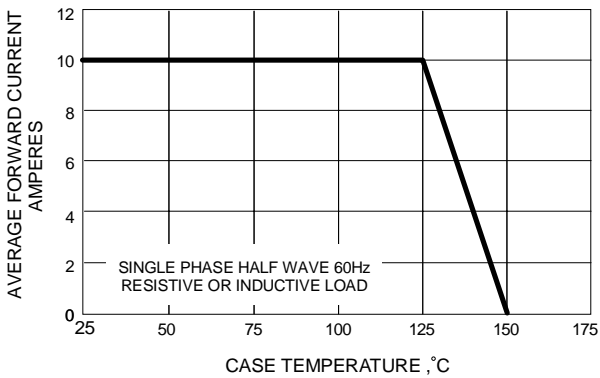
**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

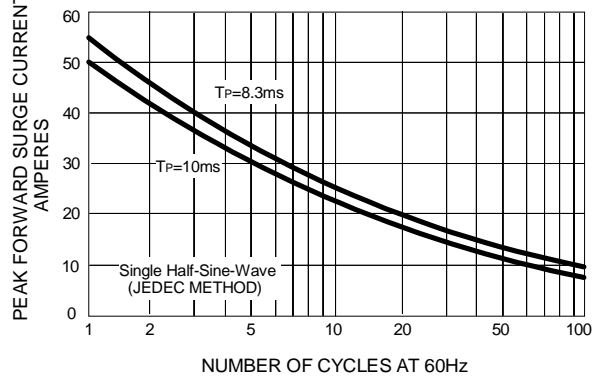
| CHARACTERISTICS   | SYMBOL                            | STPR1010CT                     | STPR1020CT | UNIT |
|---|-----------------------------------|--------------------------------|------------|------|
| Maximum Recurrent Peak Reverse Voltage  | V <sub>RRM</sub>                  | 100                            | 200        | V    |
| Maximum RMS Voltage   | V <sub>RMS</sub>                  | 70                             | 140        | V    |
| Maximum DC Blocking Voltage   | V <sub>DC</sub>                   | 100                            | 200        | V    |
| Maximum Average Forward Rectified Current @T <sub>C</sub> =125°C  | I <sub>(AV)</sub>                 | 10                             |            | A    |
| Non Repetitive Peak Forward Surge Current Per Diode TP=10ms   | I <sub>FSM</sub>                  | 50                             |            | A    |
| Sinusoidal (JEDEC Method) TP=8.3ms  |                                   | 55                             |            |      |
| Maximum forward Voltage IF=5A@T <sub>J</sub> =25°C<br>Pulse Width =300us<br>Duty cycle IF=5A@T <sub>J</sub> =125°C<br>IF=10A@T <sub>J</sub> =25°C<br>IF=10A@T <sub>J</sub> =125°C | V <sub>F</sub>                    | 0.975<br>0.925<br>1.25<br>1.20 |            | V    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage @T <sub>J</sub> =25°C<br>@T <sub>J</sub> =100°C   | I <sub>R</sub>                    | 5<br>100                       |            | uA   |
| Typical Junction Capacitance per element (Note 1)   | C <sub>J</sub>                    | 80                             |            | pF   |
| Maximum Reverse Recovery Time (Note 2)  | T <sub>RR</sub>                   | 30                             |            | ns   |
| Typical Thermal Resistance  | R <sub>θJC</sub>                  | 4.0                            |            | °C/W |
| Operating and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150                    |            | °C   |

NOTES : 1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
2.Reverse Recovery Test Conditions:IF=0.5A,IR=1.0A,IRR 0.25A.

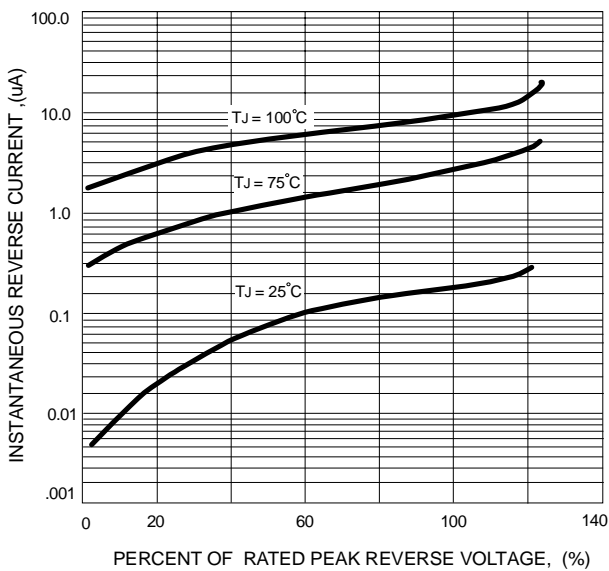
**FIG.1 - FORWARD CURRENT DERATING CURVE**



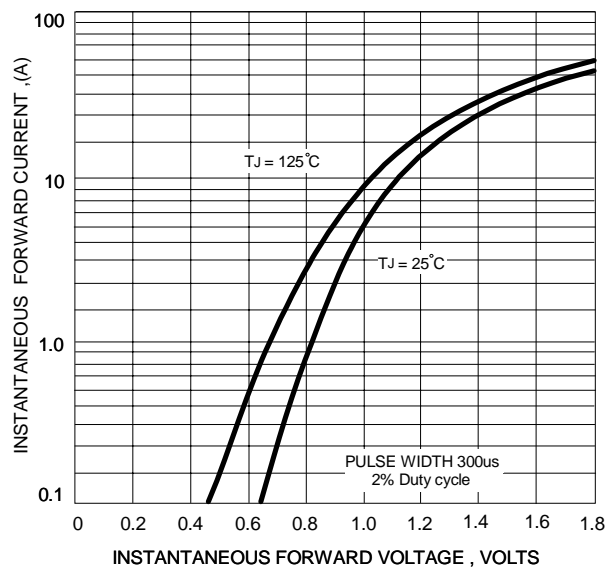
**FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT**



**FIG.3 - TYPICAL REVERSE CHARACTERISTICS**



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.5 - TYPICAL JUNCTION CAPACITANCE**

